

1 CLAIMS

2 What is Claimed Is:

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4 Claim 1. A method for treating a patient suffering from a cancerous disease  
5 comprising:

6 administering to said patient an anti-cancer antibody or fragment thereof produced  
7 in accordance with a method for the production of anti-cancer antibodies which are useful  
8 in treating a cancerous disease, said antibody or fragment thereof characterized as being  
9 cytotoxic against cells of a cancerous tissue, and being essentially benign to non-cancerous  
10 cells;

11 wherein said antibody or fragment thereof is placed in admixture with a  
12 pharmaceutically acceptable adjuvant and is administered in an amount effective to  
13 mediate treatment of said cancerous disease;

14 said antibody being the isolated monoclonal antibody or antigen binding fragment  
15 thereof encoded by the clone deposited with the ATCC as PTA-4621.

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17 Claim 2. The method for treating a patient suffering from a cancerous disease  
18 in accordance with claim 1, wherein said antibody or fragment thereof is humanized.

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20 Claim 3. The method for treating a patient suffering from a cancerous disease  
21 in accordance with claim 1 comprising:

1           conjugating said antibody or fragment thereof with a member selected from the  
2 group consisting of toxins, enzymes, radioactive compounds, and hematogenous cells; and  
3           administering conjugated antibodies or fragments thereof to said patient;  
4           wherein said conjugated antibodies are placed in admixture with a pharmaceutically  
5 acceptable adjuvant and are administered in an amount effective to mediate treatment of  
6 said cancerous disease.

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8           Claim 4.       The method of claim 3, wherein said antibody or fragment thereof is  
9 humanized.

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11           Claim 5. The method for treating a patient suffering from a cancerous disease in  
12 accordance with claim 1 wherein:  
13           the cytotoxicity of said antibody or fragment thereof is mediated through antibody  
14 dependent cellular toxicity.

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16           Claim 6. The method for treating a patient suffering from a cancerous disease in  
17 accordance with claim 1 wherein:  
18           the cytotoxicity of said antibody or fragment thereof is mediated through  
19 complement dependent cellular toxicity.

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21           Claim 7. The method for treating a patient suffering from a cancerous disease in  
22 accordance with claim 1 wherein:

1           the cytotoxicity of said antibody or fragment thereof is mediated through catalyzing  
2   of the hydrolysis of cellular chemical bonds.

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4           Claim 8. The method for treating a patient suffering from a cancerous disease in  
5   accordance with claim 1 wherein:

6           the cytotoxicity of said antibody or fragment thereof is mediated through producing  
7   an immune response against putative cancer antigens residing on tumor cells.

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9           Claim 9. The method for treating a patient suffering from a cancerous disease in  
10   accordance with claim 1 wherein:

11          the cytotoxicity of said antibody or fragment thereof is mediated through targeting  
12   of cell membrane proteins to interfere with their function.

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14          Claim 10. The method for treating a patient suffering from a cancerous disease in  
15   accordance with claim 1 wherein:

16          the cytotoxicity of said antibody or fragment thereof is mediated through  
17   production of a conformational change in a cellular protein effective to produce a signal to  
18   initiate cell-killing.

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20          Claim 11.     The method for treating a patient suffering from a cancerous disease  
21   in accordance with claim 1 wherein:

1           said method of production utilizes a tissue sample containing cancerous and non-  
2 cancerous cells obtained from a particular individual.

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4           Claim 12.     A method for treating a patient suffering from a cancerous disease  
5 comprising:

6           administering to said patient an antibody or fragment thereof produced in  
7 accordance with a method for the production of anti-cancer antibodies which are useful in  
8 treating a cancerous disease, said antibody being cytotoxic against cells of a cancerous  
9 tissue, and essentially benign to non-cancerous cells;

10          wherein said antibody is the isolated monoclonal antibody or antigen binding  
11 fragment thereof encoded by the clone deposited with the ATCC as PTA-4621, and is  
12 placed in admixture with a pharmaceutically acceptable adjuvant and is administered in an  
13 amount effective to mediate treatment of said cancerous disease.

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15          Claim 13.     The method for treating a patient suffering from a cancerous disease  
16 in accordance with claim 12, wherein said antibody or fragment thereof is humanized.

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18          Claim 14.     The method for treating a patient suffering from a cancerous disease  
19 in accordance with claim 12 comprising:

20          conjugating said antibody or fragment thereof with a member selected from the  
21 group consisting of toxins, enzymes, radioactive compounds, and hematogenous cells; and

22          administering conjugated antibodies or fragments thereof to said patient;

1 wherein said conjugated antibodies are placed in admixture with a pharmaceutically  
2 acceptable adjuvant and are administered in an amount effective to mediate treatment of  
3 said cancerous disease.

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5 Claim 15. The method of claim 14, wherein said antibody or fragment thereof  
6 is selected from said subset are humanized.

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8 Claim 16. The method for treating a patient suffering from a cancerous disease in  
9 accordance with claim 12 wherein:

10 the cytotoxicity of said antibody or fragment thereof is mediated through antibody  
11 dependent cellular toxicity.

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13 Claim 17. The method for treating a patient suffering from a cancerous disease in  
14 accordance with claim 12 wherein:

15 the cytotoxicity of said antibody or fragment thereof is mediated through  
16 complement dependent cellular toxicity.

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18 Claim 18. The method for treating a patient suffering from a cancerous disease in  
19 accordance with claim 12 wherein:

20 the cytotoxicity of said antibody or fragment thereof is mediated through catalyzing  
21 of the hydrolysis of cellular chemical bonds.

1           Claim 19. The method for treating a patient suffering from a cancerous disease  
2   in accordance with claim 12 wherein:

3           the cytotoxicity of said antibody or fragment thereof is mediated through  
4   producing an immune response against putative cancer antigens residing on tumor  
5   cells.

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7           Claim 20. The method for treating a patient suffering from a cancerous disease  
8   in accordance with claim 12 wherein:

9           the cytotoxicity of said antibody or fragment thereof is mediated through  
10   targeting of cell membrane proteins to interfere with their function.

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12           Claim 21. The method for treating a patient suffering from a cancerous disease  
13   in accordance with claim 12 wherein:

14           the cytotoxicity of said antibody or fragment thereof is mediated through  
15   production of a conformational change in a cellular protein effective to produce a  
16   signal to initiate cell-killing.

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18           Claim 22.     The method for treating a patient suffering from a cancerous  
19   disease in accordance with claim 12 wherein:

20           said method of production utilizes a tissue sample containing cancerous and  
21   non-cancerous cells obtained from a particular individual.

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1           Claim 23.     A process for mediating cytotoxicity of a human tumor cell  
2     which expresses CD44 on the cell surface comprising contacting said tumor cell with  
3     an isolated monoclonal antibody or antigen binding fragments thereof encoded by the  
4     clone deposited with the ATCC as Accession Number PTA-4621, whereby cell  
5     cytotoxicity occurs as a result of said binding.

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7           Claim 24.     The process of claim 23 wherein said isolated antibody or  
8     antigen binding fragments thereof are humanized.

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10          Claim 25.     The process of claim 23 wherein said isolated antibody or  
11     antigen binding fragments thereof are conjugated with a member selected from the  
12     group consisting of but not limited to cytotoxic moieties, enzymes, radioactive  
13     compounds, and hematogenous cells.

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15          Claim 26.     The process of claim 23 wherein said isolated antibody or  
16     antigen binding fragments thereof are chimerized.

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18          Claim 27.     The process of claim 23 wherein said isolated antibody or  
19     antigen binding fragments thereof are murine.

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1           Claim 28.     The process of claim 23 wherein the human tumor tissue sample  
2 is obtained from a tumor originating in a tissue selected from the group consisting of  
3 colon, ovarian, lung, and breast tissue.

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5           Claim 29.     A binding assay to determine a presence of cells which express  
6 a CD44 antigenic moiety which specifically binds to an isolated monoclonal antibody  
7 or antigen binding fragment thereof encoded by the clone deposited with the ATCC as  
8 PTA-4621 comprising:

9           providing a cell sample;

10          providing an isolated monoclonal antibody or antigen binding fragment thereof  
11 encoded by the clone deposited with the ATCC as PTA-4621;

12          contacting said isolated monoclonal antibody or antigen binding fragment  
13 thereof with said cell sample; and

14          determining binding of said isolated monoclonal antibody or antigen binding  
15 fragment thereof with said cell sample;

16          whereby the presence of cells which express a CD44 antigenic moiety which  
17 specifically binds to an isolated monoclonal antibody or antigen binding fragment  
18 thereof encoded by the clone deposited with the ATCC as PTA-4621 in said sample is  
19 determined.

20          Claim 30.     The binding assay of claim 29 wherein the cell sample is  
21 obtained from a tumor originating in a tissue selected from the group consisting of  
22 colon, ovarian, lung, and breast tissue.



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Claim 31. A process of isolating or screening for cells in a sample which express a CD44 antigenic moiety which specifically binds to an isolated monoclonal antibody or antigen binding fragment thereof encoded by the clone deposited with the ATCC as PTA-4621 comprising:

providing a cell sample;

providing an isolated monoclonal antibody or antigen binding fragment thereof encoded by the clone deposited with the ATCC as PTA-4621;

contacting said isolated monoclonal antibody or antigen binding fragment thereof with said cell sample; and

determining binding of said isolated monoclonal antibody or antigen binding fragment thereof with said cell sample;

whereby said cells which express a CD44 antigenic moiety which specifically binds to an isolated monoclonal antibody or antigen binding fragment thereof encoded by the clone deposited with the ATCC as PTA-4621 are isolated by said binding and their presence in said cell sample is confirmed.

Claim 32. The process of claim 31 wherein the cell sample is obtained from a tumor originating in a tissue selected from the group consisting of colon, ovarian, lung, and breast tissue.

1           Claim 33. A method of extending survival and delaying disease progression by  
2   treating a human tumor in a mammal, wherein said tumor expresses an antigen which  
3   specifically binds to a monoclonal antibody or antigen binding fragment thereof which  
4   has the identifying characteristics of a monoclonal antibody encoded by a clone  
5   deposited with the ATCC as accession number PTA-4621 comprising administering to  
6   said mammal said monoclonal antibody in an amount effective to reduce said  
7   mammal's tumor burden, whereby disease progression is delayed and survival is  
8   extended.

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11           Claim 34. The method of claim 33 wherein said antibody is conjugated to a  
12   cytotoxic moiety.

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14           Claim 35. The method of claim 33 wherein said cytotoxic moiety is a  
15   radioactive isotope.

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17           Claim 36. The method of claim 33 wherein said antibody activates complement.

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19           Claim 37. The method of claim 33 wherein said antibody mediates antibody  
20   dependent cellular cytotoxicity.

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22           Claim 38. The method of claim 33 wherein said antibody is a murine antibody.

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1           Claim 39. The method of claim 33 wherein said antibody is a humanized  
2 antibody

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4           Claim 40. The method of claim 33 wherein said antibody is a chimerized  
5 antibody.

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